

401 KAR 59:005. General provisions.

NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
Department for Environmental Protection
Division for Air Quality

Relates to: KRS Chapter 224

Pursuant to: KRS 23.082, 224.033

Necessity and Function: KRS 224.033 requires the Department for Natural Resources and Environmental Protection to prescribe regulations for the prevention, abatement, and control of air pollution. This regulation is to provide for the establishment of monitoring requirements, performance testing requirements, and other general provisions as related to new sources.

Section 1. Applicability.

The provisions of this chapter shall apply to the owner or operator of any new source for which a standard of performance has been promulgated under this chapter.

Section 2. Performance Tests.

- (1) Within sixty (60) days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at other such facility and at such other times as may be required by the department, the owner or operator of any affected facility except those affected facilities specified below shall conduct performance test(s) according to 401 KAR 50:045 and furnish the department a written report of the results of such performance test(s).
 - (a) Process operation with a process weight rate of less than 100 tons per hour;
 - (b) Indirect heat exchanger of 250 million BTU heat input per hour or less;
 - (c) Incinerator with a charging rate of forty-five (45) metric tons per day (fifty(50) tons/day) or less;
 - (d) Affected facilities specified in 401 KAR 59:046, 401 KAR 59:048, 401 KAR 59:050, 401 KAR 59:090, 401 KAR 59:095, 401 KAR 59:101, 401 KAR 59:175, 401 KAR 59:180, 401, KAR 59:185, 401 KAR 59:190, 401 KAR 59:195, 401 KAR 59:200, 401 KAR 59:210, 401 KAR 59:212, 401 KAR 59:214, 401 KAR 59:215, 401 KAR 59:220, 401 KAR 59:225, 401 KAR 59:230, 401 KAR 59:235, 401 KAR 59:240.
- (2) The department may require the owner or operator of any affected facility including those specified in subsection (1) of this section to conduct performance test(s) according to 401 KAR 50:045 and furnish a written report of the results of such performance test(s).

Section 3. Notification and Recordkeeping. Nothing in this section shall relieve the owner or operator from the responsibility of obtaining the appropriate permits required by 401 KAR 50:035.

- (1) Any owner or operator subject to the provisions of this regulation shall furnish the department written notification as follows:
 - (a) A notification of the date of construction, reconstruction, or modification of an affected facility is commenced, postmarked no later than thirty (30) days after such date;
 - (b) A notification of the anticipated date of initial startup of an affected facility postmarked not more than sixty (60) days nor

less than thirty (30) days prior to such date;

- (c) A notification of the actual date of initial startup of an affected facility postmarked within fifteen (15) days after such date;
 - (d) A notification of any physical or operational change to an affected facility which may increase the emission rate of any air pollutant to which a standard applies. This notice shall be postmarked sixty (60) days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The department may request additional relevant information subsequent to this notice;
 - (e) A notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with Section 4(3). Notification shall be postmarked not less than thirty (30) days prior to such date.
- (2) Any owner or operator subject to the provisions of this chapter shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.
- (3) Each owner or operator required to install a continuous monitoring system shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the department. Both a printed report and computer tape or cards shall be furnished in the format specified by the department. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information:
- (a) The magnitude of excess emissions computed in accordance with Section 4(8), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions;
 - (b) All hourly averages shall be reported for sulfur dioxide and nitrogen oxides monitors. The hourly averages shall be made available on computer tape or cards;
 - (c) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted;
 - (d) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments;
 - (e) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.
- (4) Any owner or operator subject to the provisions of this chapter shall maintain a file of all measurements, including continuous monitoring

system, monitoring device, and performance testing measurement; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performance on these systems or devices; and all other information required by this chapter recorded in a permanent form suitable for inspection. The file shall be retained for at least two (2) years following the date of such measurements, maintenance, reports, and records.

Section 4. Monitoring Requirements.

- (1) All continuous monitoring systems require under the regulations of this chapter shall be subject to the provisions of this section upon promulgation of performance specifications for continuous monitoring system under Appendix B of 40 CFR 60, filed by reference in 401 KAR 50:015, unless:
 - (a) The continuous monitoring system is subject to the provisions of subsection (3)(b) and (c) of this section; or
 - (b) Otherwise specified in the applicable regulation or by the department.
- (2) All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests under Section 2. Verification of operational status shall, as a minimum, consist of the following:
 - (a) For continuous monitoring systems referenced in subsection (3)(a) of this section, completion of the conditioning period specified by applicable requirements in Appendix B to 40 CFR 60;
 - (b) For continuous monitoring systems referenced in subsection (3)(b) of this section, completion of the seven (7) days of operation;
 - (c) For monitoring devices referenced in applicable regulations, completion of the manufacturer's written requirements or recommendations for checking the operation or calibration of the device.
- (3) During any performance tests required under Section 2 or within thirty (30) days thereafter and at such other times as may be required by the department, the owner or operator of any affected facility shall conduct continuous monitoring system performance evaluations and furnish the department within sixty (60) days thereof a copy of a written report of the results of such tests. These continuous monitoring system performance evaluations shall be conducted in accordance with the following specifications and procedures:
 - (a) Continuous monitoring systems listed within this paragraph except as provided in paragraph (b) of this subsection shall be evaluated in accordance with the requirements and procedures contained in the applicable performance specification of Appendix B to 40 CFR 60 as follows:
 1. Continuous monitoring systems for measuring opacity of emissions shall comply with Performance Specification 1;
 2. Continuous monitoring systems for measuring nitrogen oxides emissions shall comply with Performance Specification 2;
 3. Continuous monitoring systems for measuring sulfur dioxide emissions shall comply with Performance Specification 2;
 4. Continuous monitoring systems for measuring the oxygen content or carbon dioxide content of effluent gases shall

comply with Performance Specification 3.

- (b) An owner or operator who, prior to September 11, 1974, entered into a binding contractual obligation to purchase specific continuous monitoring system components or who, prior to October 6, 1975, installed continuous monitoring equipment, shall comply with the following requirements:
 - 1. Continuous monitoring systems for measuring opacity of emissions shall be capable of measuring emission levels within plus or minus twenty (20) percent with a confidence level of ninety-five (95) percent. The Calibration Error Test and associated calculation procedures set forth in Performance Specification 1 of Appendix B to 40 CFR 60 shall be used for demonstrating compliance with this specification;
 - 2. Continuous monitoring systems for measurements of nitrogen oxides or sulfur dioxide shall be capable of measuring emission levels within plus or minus twenty (20) percent with a confidence level of ninety-five (95) percent. The Calibration Error Test, the Field Test for Accuracy (Relative), and associated operating and calculation procedures set forth in Appendix B to 40 CFR 60 shall be used for demonstrating compliance with this specification;
 - 3. Owners or operators of all continuous monitoring systems installed on an affected facility prior to October 6, 1975, may be required to conduct tests under subparagraphs 1 and/or 2 of this paragraph if so requested by the department.
- (c) All continuous monitoring systems referenced by paragraph (b) of this subsection shall be upgraded or replaced (if necessary) with new continuous monitoring systems, and the new or improved systems shall be demonstrated to comply with applicable performance specifications under paragraph(a) of this subsection on or before September 11, 1979.
- (4) Owners or operators of all continuous monitoring systems installed in accordance with the provisions of this regulation shall check the zero and span the drift at least once daily in accordance with the method prescribed by the manufacturer of such systems unless the manufacturer recommends adjustments at shorter intervals, in which case such recommendations shall be followed. The zero and span shall, as a minimum, be adjusted whenever the twenty-four (24) hour zero drift or twenty-four (24) hour calibration drift limits of the applicable performance specifications in Appendix B to 40 CFR 60 are exceeded. For continuous monitoring systems measuring opacity of emissions, the optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero or span drift adjustments except that, for systems using automatic zero adjustments, the optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds four (4) percent opacity. Unless otherwise approved by the department, the following procedures, as applicable, shall be followed:
 - (a) For extractive continuous monitoring systems measuring gases, minimum procedures shall include introducing applicable zero and span gas mixtures into the measurement system as near the probe as is practical. Span and zero gases certified by their manufacturer to be traceable to National Bureau of Standards reference gases shall be used whenever these reference gases are available. The span and zero gas mixture shall be the same composition as specified in Appendix B to 40 CFR 60. Every six (6) months from

date of manufacture, span and zero gases shall be re-analyzed by conducting triplicate analyses with Reference Method 6 for sulfur dioxide, Reference Method 7 for nitrogen oxides, and Reference Method 3 for oxygen and carbon dioxide;

- (b) For non-extractive continuous monitoring systems measuring gases, minimum procedures shall include upscale check(s) using a certified calibration gas cell or test cell which is functionally equivalent to a known gas concentration. The zero check may be performed by computing the zero value from upscale measurements or by mechanically producing a zero condition;
 - (c) For continuous monitoring systems measuring opacity of emissions, minimum procedures shall include a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photodetector assembly.
- (5) Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under subsection (4) of this section, all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:
- (a) All continuous monitoring systems referenced by subsection (3)(a) and (b) of this section for measuring opacity of emissions shall complete a minimum of one (1) cycle of sampling and analyzing for each successive ten (10) second period and one (1) cycle of data recording for each successive six (6) minute period.
 - (b) All continuous monitoring systems referenced by subsection (3)(a) of this section for measuring oxides of nitrogen, sulfur dioxide, carbon dioxide, or oxygen shall complete a minimum of one (1) cycle of operation (sampling, analyzing, and data recording) for each successive fifteen (15) minute period;
 - (c) All continuous monitoring systems referenced by subsection (3)(b) of this section, except opacity, shall complete a minimum of one (1) cycle of operation (sampling, analyzing, and data recording) for each successive one (1) hour period.
- (6) All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of Appendix B to 40 CFR 60 shall be used.
- (7) When the effluents from a single affected facility or two (2) or more affected facilities subject to the same emission standard are combined before being released to the atmosphere, the owner or operator may install applicable continuous monitoring systems shall be installed on each effluent. When the effluent from one (1) affected facility is released to the atmosphere through more than one (1) point, the owner or operator shall install applicable continuous monitoring systems on each separate effluent unless the installation of fewer systems is approved by the department.
- (8) Owners or operators of all continuous monitoring systems for measurement of opacity shall reduce all data to six (6) minute averages and for

systems other than opacity to one (1) hour averages. Six (6) minute opacity averages shall be calculated from twenty-four (24) or more data points equally spaced over each six (6) minute period. For systems other than opacity, one (1) hour averages shall be computed from four (4) or more data points equally spaced over each one (1) hour period. Data recorded during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this subsection. An arithmetic or integrated average of all data may be used. The data output of all continuous monitoring systems may be recorded in reduced or nonreduced form (e.g. ppm pollutant and percent oxygen or lb/million BTU of pollutant). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in regulations within this chapter. After conversion into units of the standard data may be rounded to the same number of significant digits used in the regulation to specify the applicable standard (e.g. rounded to the nearest one (1) percent opacity.)

- (9) Upon written application by an owner or operator, the department may allow alternative monitoring procedures or requirements which have been approved by the U.S. Environmental Protection Agency including, but not limited to the following:
- (a) Alternative monitoring requirements when installation of a continuous monitoring system or monitoring device specified by this chapter would not provide accurate measurements due to liquid water or other interferences caused by substances with the effluent gases;
 - (b) Alternative monitoring requirements when the affected facility is infrequently operated;
 - (c) Alternative monitoring requirements to accommodate continuous monitoring systems that require additional measurements to correct stack moisture conditions;
 - (d) Alternative locations for installing continuous monitoring systems or monitoring devices when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements;
 - (e) Alternative methods of converting pollutant concentration measurements to units of the standards;
 - (f) Alternative procedures for performing daily checks of zero and span drift that do not involve use of span gases or test cells;
 - (g) Alternatives to the A.S.T.M. test methods, filed by reference in 401 KAR 50015, or sampling procedures specified by any regulation;
 - (h) Alternative continuous monitoring systems that do not meet the design or performance requirements in Performance Specification 1, Appendix B to 40 CFR 60, but adequately demonstrate a definite and consistent relationship between its measurements and the measurements of opacity by a system complying with the requirements in Performance Specification 1. The department may require that such demonstration be performed for each affected facility;
 - (i) Alternative monitoring requirements when the effluent from a single affected facility or the combined effluent from two (2) or more affected facilities are released to the atmosphere through more than one (1) point.

Effective Date: December 1, 1982

	Date Submitted to EPA	Date Approved by EPA	Federal Register
Original Reg	JUN 29, 1979	DEC 24, 1980	45 FR 84999
		JAN 25, 1980	45 FR 6092
		JUL 12, 1982	47 FR 30059
1st Revision	DEC 09, 1982	DEC 04, 1986	51 FR 43742